

SEMINÁRIO DE SISTEMAS DINÂMICOS

Hairy ball theorem and the topology of fiber bundles

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25/05/18
10:00 Horas

Miniauditório do MAT

Abstract. We will present a geometric argument to prove the well known Hairy ball theorem, which states that every continuous tangent vector field of the sphere of \mathbb{R}^3 has a zero. Next, we will explore the relation of this geometric argument with the topology of the frame bundle of the sphere and, in particular, with Dirac's belt trick.

References

- [1] L. Seco, *Rolling a hairy ball*, in preparation, 2018.
- [2] N. Steenrod, *The topology of fiber bundles*. Princeton Univ. Press, 1951.